Claims

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:

1 1. A method, for use in a virus-free certificate cache, of caching one or multiple virus-

2 free certificates, each virus-free certificate certifying that a file is virus-free, said method

3 comprising the steps of:

4

5 • receiving a virus-free certificate request for a file;

6 • identifying the file in a cache table, said cache table comprising for each

7 identified file one or a plurality of virus-free certificates;

8 • selecting in the cache table one virus-free certificate for the identified file, using

9 one or a plurality of anti-virus criteria;

10 • retrieving from the cache table said selected virus-free certificate;

11 • sending back in response to the virus-free certificate request the retrieved virus-

12 free certificate .

1 2. The method according to claim 1 wherein the virus-free certificate request comprises:

2

3 • a list of one or a plurality of anti-virus programs to execute on the file to

4 determine whether the file is virus-free or not.

1 3. The method according to claim 1 wherein the virus-free certificate request further

2 comprises:

3

4 • an identification of the file.

1   4. The method according to the claim 1 wherein the virus-free certificate request further

2   comprises:

3

4   • an identification of a virus-free certificate authority, said virus-free certificate

5   authority having authority to generate virus-free certificates.

1   5. The method according to claim 1 wherein the virus-free certificate comprises:

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3   • the list of the one or plurality of anti-virus programs that have been

4   executed on the file.

1   6. The method according to claim 1 wherein the virus-free certificate further comprises:

2

3   • a virus-free certificate authority identification.

1   7. The method according to claim 1 wherein the step of selecting in the cache table one

2   virus-free certificate for the identified file using one or a plurality of anti-virus criteria

3   comprises the further steps of:

4

5   • comparing the list of one or a plurality of anti-virus programs comprised in each

6   virus-free certificate associated with the identified file in the cache table with the list of

7   one of a plurality of anti-virus programs comprised in the received virus-free /certificate

8   request;

9

10   and where the list of one of a plurality of anti-virus programs comprised in a virus-free

11   certificate associated with the identified file includes the list of one or a plurality of anti-

12   virus programs comprised in the received virus-free certificate request:

13

14   • selecting said virus-free certificate.

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1   8. The method according to claim 1 wherein the step of selecting in the cache table one

2   virus-free certificate for the identified file using one or a plurality anti-virus criteria

3   comprises the further steps of:

4

5   •   comparing the virus-free certificate authority identification comprised in   each

6   virus-free certificate associated with the identified file in the cache table, and the virus-

7   free certificate authority identification   comprised in the received virus-free

8   certificate request:

9   and where the virus-free certificate   authority identification comprised in a virus-free

10   certificate   associated with the identified file is identical to the virus-free certificate

11   authority identification comprised in the received virus-free certificate request:

12

13   •   selecting said virus-free certificate.

1   9. The method according to claim 1 wherein the step of identifying the file in a cache

2   table comprises the further steps of:

3

4   If the file is not identified in said cache table:

5

6   •   forwarding the received virus-free certificate request to another virus-free

7   certificate cache;

8   •   receiving a virus-free certificate in response to said forwarded virus-free

9   certificate request;

10   •   sending back in response to the received virus-free certificate request, said

11   received virus-free certificate.

1   10. The method according to claim 1 comprising the further step of:

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3   •   receiving a request to update the cache table, said request comprising a virus-

4   free certificate;

5   •   storing said virus-free certificate in the cache table.

1   11. The method according to claim 10 wherein the step of receiving a request to update

2   the cache table comprises the further step of:

3

4   •   forwarding said request to another virus-free certificate cache.

1   12. The method according to claim 1 comprising the further step of:

2

3   •   discarding from the cache table the virus-free certificate which are no more

4   valid.

1   13. The method according to claim 1 comprising the further steps of:

2

3   •   selecting in the cache table one or a plurality of virus-free certificates, using an

4   information indicating for each virus-free certificate the date of the latest virus-

5   free certificate request which has been received for said virus-free certificate;

6   •   discarding from the cache table said one or plurality of selected virus-free

7   certificate.

1   14. The method according to claim 1 comprising the further steps of:

2

3   •   selecting in the cache table one or a plurality of virus-free certificate, using an

4   information indicating for each virus-free certificate the number of virus-free

5   certificate request which have been received for said virus-free certificate;

6   •   discarding from the cache table said one or a plurality of selected virus-free

7   certificate Comprises.

1   15. The method according to claim 1 wherein the generated virus-free certificate

2   comprises:

3

4   •   a file signature for certifying that the file is declared a virus-free by the selected

5   virus-free certificate authority.

1   16. The method according to claim 1 wherein the virus-free-certificate further comprises:

2

3   •   a file identification;

4   •   a public key for decrypting the file signature;

5   •   a certificate signature for authenticating the virus-free certificate;

6   •   an indication of the virus-free certificate validity.

1   17. A system for caching one or more virus-free certificates within a LAN/WAN

2   network, each virus-free certificate certifying that a file to be downloaded to a client is

3   virus-free, said system comprising:

4   a mechanism for receiving a request for a virus-free certificate associated with a file to be

5   downloaded to said client;

6   cache table device for storing one or more virus-free certificates for files, said cache table

7   device including look-up mechanism for identifying one or more virus-free certificates

8   associated with a requested file in a cache table; said look-up mechanism enabling

9   selection of one virus-free certificate for the identified file using one or a plurality of anti-

10   virus criteria; and,

11   mechanism for retrieving from a cache table said selected virus-free certificate; and, in

12   response to said request, returning a retrieved virus-free certificate with said file.

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1   18. A program storage device readable by a machine, tangibly embodying a program of

2   instructions executable by the machine to perform method steps for caching one or more

3   virus-free certificates within a LAN/WAN network, each virus-free certificate certifying

4   that a file to be downloaded to a client is virus-free, said method steps comprising:

5   a)   receiving a virus-free certificate request for a file;

6   b)   identifying the file in a cache table, said cache table comprising for each

7   identified file one or plurality of virus-free certificates;

8   c)   selecting in the cache table one virus-free certificate for the identified file

9   using one or a plurality of anti virus criteria; and,

10   d)   retrieving from the cache table said selected virus-free certificate and

11   returning a retrieved virus-free certificate with said file.